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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/734,907 | 12/12/2003 | Richard J. Rocsgen | 28952.5667 | 2303 |

27890 7590 10/02/2006

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| EXAMINER |
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HUNTER, ALVIN A

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| ART UNIT | PAPER NUMBER |
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3711

DATE MAILED: 10/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/734,907

Applicant(s)

ROESGEN ET AL.

Examiner

Alvin A. Hunter

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 7 is/are rejected.
- 7) ☒ Claim(s) 6 and 8 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claims 4 and 5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 4 and 5 require the striking face to be made of a ceramic, however claim 1 states that the club head is metal. Ceramic is not metal. Clarity to claim is needed.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayashi (USPN 4754971) in view of Chang (USPN 6402636).

Kobayashi discloses a golf clubhead set comprising club heads having a striking face which have loft angles gradually increases, wherein the striking face has a plurality of parallel, horizontal grooves (See Summary of the Invention and Figure 2). It is believed that the means for increasing the backspin are the number of grooves of the striking face and the loft angle of the striking face. It is noted that the surface roughness

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decreases as the loft angle increases, but Kobayashi does not disclose the surface roughness or the hardness of the striking face. Chang discloses a metal golf club having a striking face comprising a means that includes a surface roughness of less than about 25 microinches, or 0.635 micrometers and a Rockwell C hardness of 45 to 65, equivalent to roughly about 459 to 902 Vickers or at least 5 GPa (See Column 5, lines 11 through 53). One having ordinary skill in the art would have found it obvious to have a surface roughness of less than 0.25 micrometers and a Vickers hardness of greater than 5, as taught by Chang, in order to reduce the spin imparted to a golf ball struck by the club head.

In regard to claim 2, Chang discloses the surface roughness of the striking face being less than 25 microinches, or 0.935 micrometers (See above regarding claim 1).

In regards to claim 3, Chang discloses the strike face made of tempered steel (See column 5, lines-30 through 53). The applicant defines marginal steel as being as steel tempered in the martensitic state; therefore, it is submitted that Chang discloses the strike face made of marginal steel.

3. Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayashi (USPN 4754971) in view of Chang (USPN 6402636) further in view of Inamori (USPN 3975023).

Kobayashi in view of Chang does not disclose the striking face made of a ceramic. Inamori discloses a club head having a ceramic striking face (See Abstract). One having ordinary skill in the art would have found it obvious to have the striking face

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made of a ceramic, as taught by Inamori, in order to increase the flight distance of the golf ball.

In regards to claim 5, Inamori discloses the ceramic being alumina (See Column 2, lines 38 through 45).

4. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayashi (USPN 4754971) in view of Chang (USPN 6402636) further in view of Nagai et al. (USPN 5190289).

Kobayashi in view of Chang does not disclose the surface roughness decreasing along the height. Nagai et al. teaches a head and shaft having the surface roughness decrease along the height (see Column 15, lines 58 through 66). Though Nagai et al. does not teach the striking face, it teaches the concept of having the surface roughness decreasing along the height. One having ordinary skill in the art would have found it obvious to having the surface roughness of the striking face decrease along its height, as taught by Nagai et al., in order to reduce air resistance of the golf club.

5. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang (USPN 6402636) in view of Kobayashi (USPN 4754971).

Chang discloses a metal golf club having a striking face comprising a means for increasing backspin which includes a surface roughness of less than about 25 microinches, or 0.635 micrometers and a Rockwell C hardness of 45 to 65, equivalent to about 459 to 902 Vickers or at least 5 GPa wherein the means is the roughened surface (See Column 5, lines 11 through 53). Chang does not disclose having a loft angle of at least 45%. Kobayashi discloses a golf clubhead set comprising club heads

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having a striking face which have loft angles gradually increases, wherein the striking face has a plurality of parallel, horizontal grooves (See Summary of the Invention and Figure 2). It is believed that the means for increasing or controlling the backspin are the number of grooves of the striking face and the loft angle of the striking face. It is noted that the surface roughness decreases as the loft angle increases. One having ordinary skill in the art would have found it obvious to have the loft angle of Chang be greater than 45, as taught by Kobayashi, in order to control the spin imparted to a golf ball struck by the club head.

In regard to claim 2, Chang discloses the surface roughness of the striking face being less than 25 microinches, or 0.935 micrometers (See above regarding claim 1).

In regards to claim 3, Chang discloses the strike face made of tempered steel (See column 5, lines 30 through 53). The applicant defines marginal steel as being as steel tempered in the martensitic state; therefore, it is submitted that Chang discloses the strike face made of marginal steel.

6. Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang (USPN 6402636) in view of Kobayashi (USPN 4754971) further in view of Inamori (USPN 3975023).

Chang in view of Jenkins does not disclose the striking face made of a ceramic. Inamori discloses a club head having a ceramic striking face 1 (See Abstract). One having ordinary skill in the art would have found it obvious to have the striking face Chang in view of Kobayashi made of a ceramic, as taught by Inamori, in order to increase the flight distance of the golf ball.

In regards to claim 5, Inamori discloses the ceramic being alumina (See Column 2, lines 38 through 45).

7. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chang (USPN 6402636) in view of Kobayashi (USPN 4754971) further in view of Nagai et al. (USPN 5190289).

Chang in view of Kobayashi does not disclose the surface roughness decreasing along the height of the striking face. Nagai et al. teaches a head and shaft having the surface roughness decrease along the height (See Column 15, lines 58 through 66). Though Nagai et al. does not teach the striking face, it teaches the concept of having the surface roughness decreasing along the height. One having ordinary skill in the art would have found it obvious to having the surface roughness of the striking face of Chang in view of Kobayashi decrease along its height, as taught by Nagai et al., in order to reduce air resistance to the golf club.

Allowable Subject Matter

Claims 6 and 8 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

Applicant's arguments filed 12/13/05 have been fully considered but they are not persuasive.

Applicant argues that the combination does not do teach reduction in back ~~pin~~ ^{spin.}
But applicant clearly notes that the increase in the hardness is what contributes to the

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increase in backspin. Chang teaches the same hardness and surface roughness as that of claims 1. Reasoning different from that of the applicant is permissible when finding obviousness motivation. Kobayashi has shown in figure 3, particularly example E, that the coefficient of friction reduces as the club head increases in number. According to the fact that as the club head increases in number, the loft angle increases (i.e., a sand wedge would have a higher loft angle than a 1 iron) as evident by figure 4. Clearly the club heads disclosed by Kobayashi cannot impart the same amount of spin on the golf ball when the loft angle increases. Thus it is evident that some form of increase would occur due to the increase in loft angle in combination with Chang. For this reason, the above rejection has been furnished.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alvin A. Hunter whose telephone number is (571) 272-4411. The examiner can normally be reached on Monday through Friday from 7:30AM to 4:00PM Eastern Time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gene Kim, can be reached on 571-272-4463. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.


Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

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For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AAH

Alvin A. Hunter, Jr.

A handwritten signature in black ink, appearing to read "Eugene Kim", with a stylized flourish at the end.

EUGENE KIM
SUPERVISORY PATENT EXAMINER